

REPLACED BY  
ART 34 AMDT

## CLAIMS

1. A process for preparing conjugated linoleic acid by microorganisms, **characterized** by hydrolyzing grain fat including linoleic acid, and isomerizing the linoleic acid released in the hydrolysis into conjugated linoleic acid by the microorganisms.
2. A process according to claim 1, **characterized** in that the grain is oat, rye, barley or wheat.
3. A process according to claim 2, **characterized** in that the grain is oat or an oat fraction.
4. A process according to any one of claims 1 to 3, **characterized** in that the fat hydrolysis is caused by the enzyme activity of grain.
5. A process according to any one of claims 1 to 3, **characterized** in that the fat hydrolysis is carried out by adding external enzyme activity.
6. A process according to any one of claims 1 to 5, **characterized** in that isomerization is carried out by a beneficial bacterium (bacteria).
7. A process according to claim 6, **characterized** in that the beneficial bacterium is a propionic acid bacterium.
8. A process according to claim 7, **characterized** in that the propionic acid bacterium is a strain belonging to the species *Propionibacterium freudenreichii*, preferably a strain belonging to its subspecies *Propionibacterium freudenreichii* ssp. *freudenreichii* or *Propionibacterium freudenreichii* ssp. *shermanii*.
9. A process according to claim 8, **characterized** in that the propionic acid bacterium is *Propionibacterium freudenreichii* ssp. *shermanii* JS, DSM 7067.
10. A process according to any one of claims 1 to 9, **characterized** in that isomerization is carried out at a pH of about 6.5 to 9.5.
11. A process according to claim 10, **characterized** in that isomerization is preferably carried out at a pH of about 7.0 to 9.0, more preferably at a pH of about 8.0 to 8.5.
12. A process according to any one of claims 1 to 11, **characterized** in that the hydrolysis and isomerization steps are carried out consecutively.
13. A process according to any one of claims 1 to 11, **characterized**

REPLACED BY  
ART 34 AND 35

**terized** in that the hydrolysis and isomerization steps are carried out in parallel.

14. A process according to any one of claims 1 to 13, **characterized** in that the preparation of conjugated linoleic acid occurs in connection with the preparation of a food product.

15. A process according to any one of claims 1 to 14, **characterized** in that mainly cis-9, trans-11 isomer of conjugated linoleic acid is formed therein.

16. A process according to any one of claims 1 to 15, **characterized** in that conjugated linoleic acid is fixed to solids by adjusting the pH of the reaction mixture to about 3 to 9, preferably to a value lower than 7.0, most preferably to about 4 to 6.

17. A process according to any one of claims 1 to 16, **characterized** in that conjugated linoleic acid is isolated from the reaction broth and possibly dried.

18. A process according to any one of claims 1 to 16, **characterized** in that conjugated linoleic acid, bacterial cells and the grain used as starting material, which is preferably oat material, are concentrated and possibly dried.

19. A process according to claim 18, **characterized** in that linoleic acid, bacterial cells and grain used as the starting material, which is preferably oat material, are recovered, concentrated and lyophilized.

20. A product obtained by a process according to any one of claims 1 to 19.

21. A grain for use in the preparation of conjugated linoleic acid.

22. A grain according to claim 21, **characterized** in that it is oat.

23. A process for preparing conjugated linoleic acid from linoleic acid, **characterized** in that grain is used as the source of linoleic acid.

24. A process according to claim 23, **characterized** in that the grain is oat.